

What is claimed is:

1. A transmission method of digital broadcasting for transmitting
program data including at least one of digital audio data and digital video
5 data multiplexed with other information, which comprising:

a step of multiplexing the program data, download data
corresponding to the program data, and reference information correlating
the download data and the program data; and

a step of transmitting those multiplexing signals by a specific
10 frequency band.

2. A transmission method of digital broadcasting according to Claim
1, wherein the reference information includes at least pointer information for
specifying the download data.

3. A transmission method of digital broadcasting according to Claim
2, wherein the reference information further includes effective period
information during which the pointer information is effective.

4. A transmission method of digital broadcasting according to Claim
2, wherein the reference information further includes ID information of
frequency band over which the pointer information is effective.

5. A transmission method of digital broadcasting according to either
25 one of Claim 1 to 4, wherein the download data is transmitted later than the
program data correlated by the reference information.

6. A transmission method of digital broadcasting according to either one of Claim 1 to 4, wherein the download data is transmitted repeatedly during the period extending over the end time of the program data correlated by the reference information.

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7. A transmission method of digital broadcasting according to either one of Claim 1 to 4, wherein the download data is a digital audio data file or a digital video data file.

10 8. A transmission method of digital broadcasting according to either one of Claim 1 to 4, wherein the reference information is transmitted as part of frames composing a transmission unit of the program data.

15 9. A transmission method of digital broadcasting according to either one of Claim 1 to 4, wherein the multiplexing signals are the ensemble based on the EUREKA 147 Digital Audio Broadcasting (DAB) standard.

20 10. A transmission method of digital broadcasting according to either one of Claim 1 to 4, wherein the specific frequency band is a very high frequency band or an ultra high frequency band.

11. A digital broadcasting receiver for receiving multiplexing signals transmitting a program data multiplexed with other information, said program data including at least one of digital audio data and digital video data, and for outputting audio data or video data separating from multiplexing respective information, and

the multiplexing signals are generated by multiplexing the

program data, download data corresponding to the program data, and reference information correlating the download data and the program data,

said receiver comprising:

5 a de-multiplexer for separating the multiplexing respective information;

a data decoder for extracting the download data obtained from the de-multiplexer;

a reference information decoder for extracting the reference information obtained from the de-multiplexer;

10 an operation input means inputting the download instruction of a user;

storage means storing at least the download data; and

15 control means controlling the storage means to store the download data specified by the reference information according to the instruction signals obtained from the operation input means and the reference information obtained from the reference information decoder.

12. A digital broadcasting receiver according to Claim 11, wherein the reference information includes pointer information for specifying the
20 download data.

13. A digital broadcasting receiver according to Claim 12, wherein the reference information further includes effective period information for indicating the effective period of the pointer information.

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14. A digital broadcasting receiver according to Claim 12, wherein the reference information further includes ID information of the frequency band

over which the pointer information is effective.

15. A digital broadcasting receiver according to either one of Claim 11
to 14, which is provided with a first display means for displaying whether
5 the reference information separated by the de-multiplexer is effective or not.

16. A digital broadcasting receiver according to Claim 15, wherein the
first display means displays that the reference information includes
information of non-effective period.

17. A digital broadcasting receiver according to Claim 15, wherein the
first display means displays that the reference information includes ID
information of non-effective frequency band.

18. A digital broadcasting receiver according to either one of Claim 11
or 14, which is provided with a second display means for displaying the
normal end of storing the download data in the storage means.

19. A digital broadcasting receiver according to either one of Claim 11
or 14, which is provided with a second display means for displaying a
running state that the download data is being stored in the storage means.

20. A digital broadcasting receiver according to either one of Claim 11
or 14, which is provided with a second display means for displaying an error
25 message in case where the download data is not successfully stored in the
storage means.

21. A digital broadcasting receiver according to either one of Claim 11 to 14, wherein the storage means is a portable storage medium removable from the receiver.

5 22. A broadcasting station system for editing program data including at least one of digital audio data and digital video data by program editing means, and for multiplexing the program data with other information, and then modulating and transmitting them, which comprising:

10 download data preparing means preparing download data corresponding to the program data;

reference information preparing means preparing reference information correlating the download data with the program data; and

15 multiplexing means multiplexing the program data, the download data and the reference information.

23. A digital broadcasting station system according to Claim 22, wherein the reference information includes at least pointer information for specifying the download data.

20 24. A digital broadcasting station system according to Claim 23, wherein the reference information further includes effective period information during which the pointer information is effective.

25 25. A digital broadcasting station system according to Claim 23, wherein the reference information further includes ID information of the frequency band over which the pointer information is effective.